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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,975	01/26/2006	In-hwan Choi	285040US0PCT	9519
22850 7590 03/26/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER TRAN, BINH X	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 03/26/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/565,975	Applicant(s) CHOI, IN-HWAN	
	Examiner Binh X. Tran	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-10 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03-12-2009 has been entered.

Claim Objections

2. Claim 3 is objected to because of the following informalities: In line 4 of claim 3, the examiner suggest replacing "(III)" to --(iii)-- (i.e. replacing upper case "I" to lower case "i" in order to provide proper antecedent basis and avoid any confusion between the step number and the Group number). Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for element Cu and Ag in Group I, does not reasonably provide enablement for all other element in Group I beside element Cu and Ag. The specification does not enable any person skilled in the art to which it pertains,

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or with which it is most nearly connected, to use the invention commensurate in scope with these claims. It is well known in the chemistry, that Group I consist of Group IA and Group IB (See periodic table in prior art made of record). Group IA includes the following element: H, Li, Na, K, Rb, Cs, Fr. Group IB includes the following element: Cu, Ag, Au and element having atomic number 111. First, it is clear in the specification that the applicants do not provide any enablement for any elements in Group IA (i.e. element H, Li, Na, K, Rb, Cs, Fr). Second, the examiner recognizes that applicants provide enablement for element Cu and Ag in Group IB. However, applicants fail to provide any embodiment or example for element Au and element 111 in Group IB. Thus, the examiner concludes that applicants only provide enablement for element Cu and Ag in Group I.

5. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for element Al, Ga and In in Group III, does not reasonably provide enablement for all other element in Group III beside element Al, Ga and Al. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. It is well known in the chemistry, that Group III consist of Group IIIA and Group IIIB (See periodic table in prior art made of record). Group IIIA includes the following element: B, Al, Ga, In, Tl. Group IIIB includes the following element: Sc, Y, La, Lanthanide element series (element having atomic number 58 to 71), Ac, Actinide element series (element having atomic number 90 to 103). First, it is clear in the specification that the applicants do not provide any

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enablement for any elements in Group IIIB. Second, the examiner recognizes that applicants provide enablement for element Al, Ga and In in Group IIIA. However, applicants fail to provide any embodiment or example for element B or Tl in Group IIIA. Thus, the examiner concludes that applicants only provide enablement for element Al, Ga and In in Group III.

6. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for element S, Se and Te in Group VI, does not reasonably provide enablement for all other element in Group VI beside element S, Se, and Te. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. It is well known in the chemistry, that Group VI consist of Group VIA and Group VIB (See periodic table in prior art made of record). Group VIA includes the following element: O, S, Se, Te, Po, element having atomic number 116. Group VIB includes the following element: Cr, Mo, W, Sg. First, it is clear in the specification that the applicants do not provide any enablement for any elements in Group VIB. Second, the examiner recognizes that applicants provide enablement for element S, Se and Te in Group VIA. However, applicants fail to provide any embodiment or example for element O, and Po or element having atomic number 116 in group VIA. Thus, the examiner concludes that applicants only provide enablement for element S, Se and Te in Group VI.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1-8, Group I element is vague and indefinite because it is unclear which specific elements in Group I that applicants wish to claim (Note: Group I consisting of Group IA and Group IB). Further, as discussed above under 112, 1st paragraph rejection, applicants do not provide enablement and support for all elements in Group I.

In claim 1-8, Group III element is vague and indefinite because it is unclear which specific elements in Group I that applicants wish to claim (Note: Group III consisting of Group IIIA and Group IIIB). Further, as discussed above under 112, 1st paragraph rejection, applicants do not provide enablement and support for all elements in Group III.

In claim 1-8, Group VI element is vague and indefinite because it is unclear which specific elements in Group I that applicants wish to claim (Note: Group VI consisting of Group VIA and Group VIB). Further, as discussed above under 112, 1st paragraph rejection, applicants do not provide enablement and support for all elements in Group VI.

Allowable Subject Matter

9. Claims 9-10 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: The reason for allowance was discussed in previous office action.

Response to Arguments

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11. Respect to the 35 USC 112, 1st paragraph rejection, the applicants state " A person of ordinary skill would immediately recognize that Cu and Ag are Group I metals. Moreover, it is believed that that the description of the specification and claims makes it abundantly clear that Group III elements are Al, Ga and In and Group VI elements are S, Se and Te. Applicants have therefore removed the subgeneric letter identifications from the claims." The examiner disagrees. First, as discussed above, Applicants do not provide an enablement for all elements in Group I, Group III, and Group VI. The applicants only provide enablement for some elements in Group I, Group III and Group VI. For Group I, applicants only provide enablement for Cu and Ag elements. Applicants fail to provide enablement for all other elements (beside Cu and Ag) in Group I. For Group III, applicants only provide enablement for element Al, Ga and In. Applicants fail to provide enablement and example for all other elements (beside Al, Ga, and In) in Group III. For Group VI, applicants only provide enablement for elements S, Se and Te. Applicants fail to provide enablement for all other elements (beside S, Se and Te) in Group VI.

The examiner further provides a new ground of rejection under 35 USC 112, 2nd paragraph as discussed above.

Respect to claim 7 and 10, the applicant's amendment is sufficient to overcome the examiner previous ground of rejection under 35 USC 112, 2nd paragraph.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Los Alamos National Laboratory's Chemistry, "Periodic Table of the Element",
<http://periodic.lanl.gov/downloads/PeriodicWebSite.pdf> , page 1-3, 2001.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571)272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh X Tran
Primary Examiner
Art Unit 1792

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Primary Examiner, Art Unit 1792

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